

In the Claims:

Please cancel claims 5-6, and 8.

Please amend claims 4, 7, 10-11, 13-14, 19-20, and 23-24 as follows:

Sub D.1
4. (Amended) A process for etching away a fixed thickness of silicon oxide in an integrated circuit structure on a semiconductor substrate in an etching apparatus which comprises:

a) exposing an oxide surface of an integrated circuit structure on a semiconductor substrate to a plasma consisting essentially of a nitrogen plasma generated by a first rf power source maintained at a power level of from about 250 watts to about 1000 watts; and

C1
b) maintaining on said semiconductor substrate, an rf bias from a second rf power source maintained at a power level of from above zero up to a power level just below a level at which sputtering of said substrate materials would commence on said semiconductor substrate during said exposure of said oxide surface to said nitrogen plasma;

whereby a fixed thickness of silicon oxide will be removed from said oxide surface, with the oxide thickness removed dependent upon the power level of said rf bias on said semiconductor substrate.

Sub D.1
C2
7. (Amended) The process for etching away a fixed thickness of silicon oxide of claim 4 wherein said nitrogen plasma consists essentially of a remote rf plasma generated by said first rf power source at a distance from said oxide surface sufficiently far enough that recombination of at least some of the electrons with the ionic nitrogen species occurs so that the flux of ionic nitrogen species will be reduced from the initial flux created at the nitrogen plasma origin,

Sub 1
C3 10. (Amended) The process for etching away a fixed thickness of silicon oxide of claim 4 wherein said oxide surface exposed to said nitrogen plasma comprises an oxide layer previously formed on said integrated circuit structure to form a gate oxide thereon.

11. (Amended) A process for etching away a fixed thickness of silicon oxide in an integrated circuit structure on a semiconductor substrate mounted on a substrate support in an etching chamber of an etching apparatus which comprises:

- a) exposing an oxide surface of an integrated circuit structure on a semiconductor substrate to a plasma consisting essentially of nitrogen formed by igniting said nitrogen plasma in said etching apparatus, using a first rf power source maintained at an rf power level of from about 250 watts up to about 1000 watts; and
- b) maintaining, on said substrate support, during said exposure of said oxide surface to said nitrogen plasma, an rf bias from a second rf power source maintained at a power level ranging from above zero up to a power level just below a level at which sputtering of said substrate materials would commence;

whereby a fixed thickness of silicon oxide will be removed from said oxide surface, with the oxide thickness removed dependent upon said power level of said rf bias on said substrate support.

13. (Amended) The process for etching away a fixed thickness of silicon oxide of claim 11 wherein said nitrogen plasma is maintained using said first rf power source at an rf power level of from about 250 watts to about 500 watts.

C4 14. (Amended) The process for etching away a fixed thickness of silicon oxide of claim 11 wherein said nitrogen plasma generated by said first rf power source consists essentially of a remote nitrogen plasma.

19. (Amended) A process for etching away a fixed thickness of silicon oxide in an integrated circuit structure on a semiconductor substrate which comprises:

Sub DI
a) placing said semiconductor substrate on a substrate support in an etching chamber of an etching apparatus, said chamber maintained at a pressure of from about 1 millitorr to about 500 millitorr;

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b) exposing an oxide surface of an integrated circuit structure on a semiconductor substrate to a plasma consisting essentially of nitrogen maintained at a power level of from about 250 watts to about 500 watts by a first rf power source and formed by flowing nitrogen gas into said etching apparatus, and then igniting a plasma in said etching apparatus; and

c) maintaining, on said substrate support, during said exposure of said oxide surface to said nitrogen plasma, an rf bias maintained at an rf power level ranging from above zero up to about 100 watts by a second rf power source;

whereby a fixed thickness of silicon oxide will be removed from said oxide surface, with the oxide thickness removed dependent upon said rf power level of said rf bias on said semiconductor substrate.

20. (Amended) The process for etching away a fixed thickness of silicon oxide of claim 19 wherein said power level of said second rf power source generating said rf bias on said substrate ranges from above zero up to about 50 watts.

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23. (Amended) The process for etching away a fixed thickness of silicon oxide of claim 19 wherein said nitrogen plasma generated by said first rf power source consists essentially of a remote nitrogen plasma.